



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/593,630

09/21/2006

Nobuhiro Ide

060726

2578

21874

7590

11/26/2008

EDWARDS ANGELL PALMER & DODGE LLP

P.O. BOX 55874

BOSTON, MA 02205

EXAMINER

DIAZ, JOSE

ART UNIT

PAPER NUMBER

2879

MAIL DATE

DELIVERY MODE

11/26/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,630	<b>Applicant(s)</b> IDE ET AL.	
	<b>Examiner</b> JOSE M. DIAZ	<b>Art Unit</b> 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-11 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/21/2006, 12/10/2007</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-5 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sugiura et al (20040012980)**, hereinafter **Sugiura**, in view of **Kindo et al (20030189401)**, hereinafter **Kindo**.

Regarding **claim 1**, Sugiura clearly shows and discloses an organic light emitting device having an emission layer (4) between an anode (5) and a cathode (2), wherein the organic light emitting device has, at least either inside or outside the device, a light scattering means (11) for scattering light emitted from the emission layers (figs. 1-3, ¶s [0101], [0114]).

However, Sugiura fails to exemplify a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer.

In the same field of endeavor, Kindo clearly shows and discloses a plurality of emission layers (3-1, 3-2, 3-3) being separated from each other by an equipotential surface forming layer or a charge generating layer (4-1, 4-2) (fig. 8, ¶ [0175]), in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a plurality of emission layers being separated from each other by an equipotential surface forming layer or a charge generating layer as taught by Kindo in the device of Sugiura, in order to effectively and stably provide a device structure capable of achieving a long operational life time with a light-emission at a higher luminance.

Regarding **claim 2**, Sugiura clearly shows and discloses that the light scattering means (11) is made up by forming at least one of the anode and the cathode by a light-scattering and light-reflective electrode (12) (fig. 3, ¶ [0114]).

Regarding **claim 4**, Sugiura clearly shows and discloses that the light scattering means is made up by forming at least one of the anode (5) and the cathode by a light-scattering and optically-transparent electrode (fig. 3, ¶ [0131]).

Regarding **claim 5**, Sugiura clearly shows and discloses that the light scattering means is made up by forming at least one of the anode (5) and the cathode by an optically-transparent electrode and providing a light-scattering and optically-transparent element (16) on the optically-transparent electrode on the opposite side of the emission layers (4) (fig. 3, ¶ [0131]).

Regarding **claim 8**, Sugiura clearly shows and discloses the claimed invention.

However, Sugiura fails to exemplify a plurality of emission layers comprises emission layers of at least two different emission colors.

In the same field of endeavor, Kindo clearly shows and discloses a plurality of emission layers comprises emission layers (3-1, 3-2, 3-3) of at least two different

Art Unit: 2879

emission colors (fig. 8, ¶ [0207]), so that a desired mixed (superimposed) color emission can be obtained.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a plurality of emission layers comprises emission layers of at least two different emission colors as taught by Kindo in the device of Sugiura, so that a desired mixed (superimposed) color emission can be obtained.

Regarding **claim 9**, Sugiura clearly shows and discloses the claimed invention.

However, Sugiura fails to exemplify that an emission color of the organic light emitting device is white.

In the same field of endeavor, Kindo clearly shows and discloses that an emission color of the organic light emitting device is white (fig. 8, ¶ [0207], claim 29), in order to provide a light-emission at a higher luminance.

Same rationale to combine from the rejection of claim 8 applies.

Claims 7, 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kindo et al (20030189401)**, hereinafter **Kindo**, in view of **Tyan et al (20040061136)**, hereinafter **Tyan**.

Regarding **claim 7**, Kindo clearly shows and discloses an organic light emitting device having a plurality of emission layers between an anode and a cathode, the emission layers are separated from each other by an equipotential surface forming layer

Art Unit: 2879

or a charge generating layer, wherein both the anode and the cathode are formed by optically-transparent electrodes.

However, Kindo fails to exemplify that a light reflective element being provided on one of the optically-transparent electrodes on the opposite side of the emission layers, a distance between the light reflective element and the emission layers being set to a distance where optical interference does not occur substantively.

In the same field of endeavor, Tyan clearly shows and discloses a light reflective element (26) being provided on one of an optically-transparent electrodes on the opposite side of an emission layers (figs. 10-11, ¶ [0049]), in order to minimize light absorption within the device.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a light reflective element being provided on one of an optically-transparent electrodes on the opposite side of an emission layers as taught by Tyan in the device of Kindo, in order to minimize light absorption within the device.

It is to be noted that the combination of Kindo and Tyan meets all the structure limitations of the organic light emitting device. The limitation "a distance between the light reflective element and the emission layers being set to a distance where optical interference does not occur substantively" is a functional statement. Therefore the in the combination of Kindo and Tyan distance between the light reflective element and the emission layers can be adapt to perform the claimed function.

The following is a quotation of the MPEP 2114

Art Unit: 2879

APPARATUS CLAIMS MUST BE STRUCTURALLY DISTINGUISHABLE FROM THE  
PRIOR ART

>While features of an apparatus may be recited either structurally or functionally, claims< directed to >an< apparatus must be distinguished from the prior art in terms of structure rather than function. >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429,1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971);< In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original).

Regarding **claim 10**, Kindo clearly shows and discloses that the plurality of emission layers comprises emission layers (3-1, 3-2, 3-3) of at least two different emission colors (fig. 8, ¶ [0207]).

Regarding **claim 11**, Kindo clearly shows and discloses that the emission color of the organic light emitting device is white (fig. 8, ¶ [0207], claim 29).

***Allowable Subject Matter***

Claim 6 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 6, the references of Prior Art of record fails to teach or suggest the combination of the limitations as set fourth in claim 6, and specifically comprising the limitation “wherein said light scattering means is made up by forming said equipotential surface forming layer or said charge generating layer so that it has a light scattering property”.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSE M. DIAZ whose telephone number is (571)272-9822. The examiner can normally be reached on 7:00 - 5:00 EST Monday-Thursday; Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2879

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/José M. Díaz/  
Examiner, Art Unit 2879

/Sikha Roy/  
Primary Examiner, Art Unit 2879